



UNITED STATES PATENT AND TRADEMARK OFFICE

A

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/873,719	06/04/2001	David E. Heckerman	MS158346.1	4954

27195 7590 12/05/2005

AMIN & TUROCY, LLP
24TH FLOOR, NATIONAL CITY CENTER
1900 EAST NINTH STREET
CLEVELAND, OH 44114

EXAMINER

STARKS, WILBERT L

ART UNIT	PAPER NUMBER
----------	--------------

2129

DATE MAILED: 12/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

MAILED

DEC 05 2005

Technology Center 2100

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/873,719
Filing Date: June 04, 2001
Appellant(s): HECKERMAN ET AL.

Himanshu S. Amin
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 09/20/2005 appealing from the Office action mailed 05/18/2005.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,140,530

GUHA et al.

8-1992

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 U.S.C. § 101

35 U.S.C. §101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

the invention as disclosed in claims 1-64 is directed to non-statutory subject matter.

Claims 1-64 are not claimed to be practiced on a computer, therefore, it is clear that the claims are not limited to practice in the technological arts. On that basis alone, they are clearly nonstatutory.

Regardless of whether any of the claims are in the technological arts, none of them is limited to practical applications in the technological arts. Examiner finds that *In re Warmerdam*, 33 F.3d 1354, 31 USPQ2d 1754 (Fed. Cir. 1994) controls the 35 U.S.C. §101 issues on that point for reasons made clear by the Federal Circuit in *AT&T Corp. v. Excel Communications, Inc.*, 50 USPQ2d 1447 (Fed. Cir. 1999). Specifically, the Federal Circuit held that the act of:

...[T]aking several abstract ideas and manipulating them together adds nothing to the basic equation. *AT&T v. Excel* at 1453 quoting *In re Warmerdam*, 33 F.3d 1354, 1360 (Fed. Cir. 1994).

Examiner finds that Applicant's "computer readable data set" references are just such abstract ideas. True, had Applicant claimed a "computer readable medium," Applicant would have claimed a "product of manufacture" and would get "two bites at the apple," as it were, to have the claims analyzed as statutory (that is, based on the claim that it is a "product of manufacture" or based on the underlying method of the claim.) Such is not the case here....Applicant claims a "computer readable data set." As such, a computer readable data set is not computer program steps on a computer readable medium that causes the computer to do a specific thing...it is merely an abstract data set.

Examiner bases his position upon guidance provided by the Federal Circuit in *In re Warmerdam*, as interpreted by *AT&T v. Excel*. This set of precedents is within the same line of cases as the *Alappat-State Street Bank* decisions and is in complete agreement with those decisions. *Warmerdam* is consistent with *State Street's* holding that:

Today we hold that the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation because it produces 'a useful, concrete and tangible result' -- a final share price momentarily fixed for recording purposes and even accepted and relied upon by regulatory authorities and in subsequent trades. (emphasis added) *State Street Bank* at 1601.

True enough, that case later eliminated the "business method exception" in order to show that business methods were not per se nonstatutory, but the court clearly did not go so far as to make business methods per se statutory. A plain reading of the excerpt above shows that the Court was very specific in its definition of the new practical application. It would have been much easier for the court to say that "business methods were per se statutory" than it was to define the practical application in the case as "...the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price..."

The court was being very specific.

Additionally, the court was also careful to specify that the “useful, concrete and tangible result” it found was “a final share price momentarily fixed for recording purposes and even accepted and relied upon by regulatory authorities and in subsequent trades.” (i.e. the trading activity is the further practical use of the real world monetary data beyond the transformation in the computer – i.e., “post-processing activity”.)

Applicant cites no such specific results to define a useful, concrete and tangible result. Neither does Applicant specify the associated practical application with the kind of specificity the Federal Circuit used.

Furthermore, in the case *In re Warmerdam*, the Federal Circuit held that:

...[T]he dispositive issue for assessing compliance with Section 101 in this case is whether the claim is for a process that goes beyond simply manipulating ‘abstract ideas’ or ‘natural phenomena’ ... As the Supreme Court has made clear, ‘[a]n idea of itself is not patentable, ... taking several abstract ideas and manipulating them together adds nothing to the basic equation. *In re Warmerdam* 31 USPQ2d at 1759 (emphasis added).

Since the Federal Circuit held in *Warmerdam* that this is the “dispositive issue” when it judged the usefulness, concreteness, and tangibility of the claim limitations in that case, Examiner in the present case views this holding as the dispositive issue for determining whether a claim is “useful, concrete, and tangible” in similar cases. Accordingly, the Examiner finds that Applicant manipulated a set of abstract “computer readable data sets” to solve purely algorithmic problems in the abstract (i.e., what kind of “data” is used? Algebraic word problems? Boolean logic problems? Fuzzy logic algorithms? Probabilistic word problems? Philosophical ideas? Even vague expressions, about which even reasonable persons could differ as to their meaning? Combinations thereof?) Clearly, a claim for algorithmic manipulation of “computer readable data sets” is provably even more abstract (and thereby less limited in practical application) than pure “mathematical algorithms” which the Supreme Court has held are per se nonstatutory – in fact, it includes the expression of nonstatutory mathematical algorithms.

Since the claims are not limited to exclude such abstractions, the broadest reasonable interpretation of the claim limitations includes such abstractions. Therefore, the claims are impermissibly abstract under 35 U.S.C. §101 doctrine.

Since *Warmerdam* is within the *Alappat-State Street Bank* line of cases, it takes the same view of “useful, concrete, and tangible” the Federal Circuit applied in *State*

Art Unit: 2129

Street Bank. Therefore, under State Street Bank, this could not be a “useful, concrete and tangible result”. There is only algorithmic manipulation of abstract ideas.

The Federal Circuit validated the use of Warmerdam in its more recent AT&T Corp. v. Excel Communications, Inc. decision. The Court reminded us that:

Finally, the decision in *In re Warmerdam*, 33 F.3d 1354, 31 USPQ2d 1754 (Fed. Cir. 1994) is not to the contrary. *** The court found that the claimed process did nothing more than manipulate basic mathematical constructs and concluded that ‘taking several abstract ideas and manipulating them together adds nothing to the basic equation’; hence, the court held that the claims were properly rejected under §101 ... Whether one agrees with the court’s conclusion on the facts, the holding of the case is a straightforward application of the basic principle that mere laws of nature, natural phenomena, and abstract ideas are not within the categories of inventions or discoveries that may be patented under §101. (emphasis added) *AT&T Corp. v. Excel Communications, Inc.*, 50 USPQ2d 1447, 1453 (Fed. Cir. 1999).

Remember that in *In re Warmerdam*, the Court said that this was the dispositive issue to be considered. In the AT&T decision cited above, the Court reaffirms that this is the issue for assessing the “useful, concrete, and tangible” nature of a set of claims under §101 doctrine. Accordingly, Examiner views the Warmerdam holding as the dispositive issue in this analogous case.

The fact that the invention is merely the manipulation of abstract ideas is clear. The data referred to by Applicant's phrase "computer readable data set" is simply an abstract construct that does not limit the claims to the transformation of real world data (such as monetary data or heart rhythm data) by some disclosed process. Consequently, the necessary conclusion under AT&T, State Street and Warmerdam, is straightforward and clear. The claims take several abstract ideas (i.e., "computer readable data sets" in the abstract) and algorithmically manipulate them together adding nothing to the basic equation. Claims 1-64 are, thereby, rejected under 35 U.S.C. §101.

Regarding the "system" recitals in claims 1 – 29, 32-34, 46, and 63-64 and the presumed "product of manufacture" claims in claims 42 and 53 the invention is still found to be nonstatutory. Any other finding would be at variance with current case law. Specifically, the Federal Circuit held in AT&T v. Excel, 50 USPQ2d 1447 (Fed. Cir. 1999) that:

Whether stated implicitly or explicitly, we consider the scope of Section 101 to be the same regardless of the form machine or process in which a particular claim is drafted. AT&T v. Excel, 50 USPQ2d 1447, 1452 citing In re Alappat, 33 F.3d at 1581, 31 USPQ2d at 1589 (Rader, J., concurring) (emphasis added.)

Examiner considers the scope of Section 101 to be the same regardless of whether Applicant claims a "process", "machine", or "product of manufacture". While

Art Unit: 2129

the "system" recitals in the preambles of claims 1 – 29, 32-34, 46, and 63-64 make the claims ostensibly drawn to be "apparatus" claims, they are insufficient by themselves to limit the claims to statutory subject matter. Likewise, the presumed attempts to limit claims 42 and 53 to "product of manufacture" claims are insufficient by themselves to limit the claims to statutory subject matter. Examiner's position is clearly consistent with *Alappat*, and *AT&T* and is implicitly consistent with *Warmerdam* and *State Street*. Accordingly, those claims are also properly rejected.

Claim Rejections - 35 U.S.C. §112

The following is a quotation of the first paragraph of 35 U.S.C. §112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-64 are rejected under 35 U.S.C. §112, first paragraph because current case law (and accordingly, the MPEP) require such a rejection if a §101 rejection is given because when Applicant has not in fact disclosed the practical application for the invention, as a matter of law there is no way Applicant could have disclosed how to practice the undisclosed practical application. This is how the MPEP puts it:

("The how to use prong of section 112 incorporates as a matter of law the requirement of 35 U.S.C. 101 that the specification disclose as a matter of fact a practical utility for the invention.... If the application fails as a matter of fact to satisfy 35 U.S.C. §101, then

Art Unit: 2129

the application also fails as a matter of law to enable one of ordinary skill in the art to use the invention under 35 U.S.C. § 112.”); In re Kirk, 376 F.2d 936, 942, 153 USPQ 48, 53 (CCPA 1967) (“Necessarily, compliance with § 112 requires a description of how to use presently useful inventions, otherwise an applicant would anomalously be required to teach how to use a useless invention.”). See, MPEP 2107.01(IV), quoting In re Kirk (emphasis added).

Therefore, claims 1-64 are rejected on this basis.

Claim Rejections - 35 U.S.C. § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. §102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 19, 30, 42, and 64 are rejected under 35 U.S.C. §102(b) as being anticipated by Guha et al . Specifically:

Claims 1, 19, 30, 42, and 64

Art Unit: 2129

Claim 1, 19, 30, 42, and 64's "a first training algorithm that efficiently builds a rough model from a subset of the computer readable data set" is anticipated by Guha et al., Fig. 2, see the "Network Performance Evaluation" element.

Claim 1, 19, 30, 42, and 64's "An evaluation component that determines whether the subset of the computer readable data set is an appropriate subset to build a model for the computer readable data set; and" is anticipated by Guha et al., Fig. 2, see the "Network Performance Evaluation " and the "New, Untrained Network" elements.

Claim 1, 19, 30, 42, and 64's "A second training algorithm that builds a refined model for the computer readable data set from the subset if deemed appropriate by the evaluation component." is anticipated by Guha et al., Fig. 2, see the "Genetic Algorithm" and the "Trained Network" elements.

(10) Response to Arguments

Argument 1

Applicant argues:

In particular, the subject claims recite that a refined model for the computer readable data set is built based on an appropriate subset from the computer readable data set. This refined model is a useful, concrete and tangible result. For example, one would appreciate that the refined model can be employed in connection with clustering, data mining, etc.

Examiner notes the fact that claims are defined by their limitations. Section 101 requires such claims to further contain limitations to practical applications in the technological arts. A list of possible applications that are not limited in the claims is insufficient to satisfy section 101. In fact, the same could be said of a pure mathematical algorithm: Suppose a claim simply consisted of a specified pure equation known to be per se nonstatutory. A list of possible uses (in fact, the same one used by Applicant) could be made for that pure equation, but the Supreme Court has held that pure mathematical algorithms, without more, are per se non-statutory. So, here we have something that is known to be per se nonstatutory, but a list of possible practical applications for it could easily be made. Obviously, such a notional list does not make an admitted pure mathematical algorithm statutory. Likewise, such a list made for the claims at issue would add no statutory limitations to the claims. The associated argument would be specious and nugatory... especially since the listed elements aren't even in the claim.

Argument 2

Applicant further argues that:

Additionally, the appellants' claims recite that an appropriate subset from which to build a model is determined. The determination of the appropriate subset is a useful, tangible, and concrete result since it enables identifying a subset from which to build the refined model that

Art Unit: 2129

provides for a balance between accuracy and efficiency associated with model generation.

Examiner note that a "subset" is a purely mathematical construct from set theory...in fact, all the other elements cited in applicant's argument (e.g., "model") are pure mathematical constructs incapable of patent protection, without more. If applicant's claimed invention is useful, where is this practical application limited in the claim? If applicant claimed the manipulation of data that has units of measure attached to them, it would be easy to say that the claim is statutory...most physical things are measurable and the presentation of units of measure would be quite convincing. Applicant provides no such limitation in the claims. Applicant provides no claim limitation to any practical application in the real-world. On this basis, the 101 rejections at issue STAND.

Argument 3

Applicant further argues that:

In the Office Action dated May 18, 2005 the Examiner asserted "that Applicant manipulated a set of abstract 'computer readable data sets' to solve purely algorithmic problems in the abstract." (See page. 6). Appellants' representative disagrees with such contention. Similar to the result produced in *State Street Bank & Trust Co. v Signature Fin. Group, Inc.*, 149 F.3d 1368, the manipulation of computer readable data sets (e.g., building a rough model from a subset, evaluating the subset to determine whether it is appropriate, building a refined model based on the appropriate subset, .. .) constitutes a practical application because it produces useful, concrete and tangible results - namely, a refined model of the computer readable data set and a determination of an appropriate subset from which to build the refined model- Thus, the subject claims are not directed to manipulating an abstract idea since the claims relate to a practical application that is useful, concrete and tangible.

Art Unit: 2129

Examiner notes that Applicant seeks to analogize his case to the facts in *State Street Bank & Trust Co. v Signature Fin. Group, Inc.*, 149 F.3d 1368. Examiner finds that the two cases are not the same or similar.

The issues in *State Street* turned on the "transformation of discrete dollar values" as an example of a practical application that was "useful, concrete and tangible." In fact, the Court expressly and specifically addressed this point when it held that:

Today we hold that the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation because it produces 'a useful, concrete and tangible result' -- a final share price momentarily fixed for recording purposes and even accepted and relied upon by regulatory authorities and in subsequent trades. (emphasis added) *State Street Bank* at 1601.

True enough, that case later eliminated the "business method exception" in order to show that business methods were not per se nonstatutory, but the court clearly did not go so far as to make business methods per se statutory. A plain reading of the excerpt above shows that the Court was very specific in its definition of the new practical application. It would have been much easier for the court to say that "business methods were per se statutory" than it was to define the practical application in the case as "...the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price..."

The court was being very specific.

Additionally, the court was also careful to specify that the “useful, concrete and tangible result” it found was “a final share price momentarily fixed for recording purposes and even accepted and relied upon by regulatory authorities and in subsequent trades.” (i.e. the trading activity is the further practical use of the real world monetary data beyond the transformation in the computer – i.e., “post-processing activity”.)

Applicant cites no such specific results to define a useful, concrete and tangible result. Neither does Applicant specify the associated practical application with the kind of specificity the Federal Circuit used.

Furthermore, in the case *In re Warmerdam*, the Federal Circuit held that:

...[T]he dispositive issue for assessing compliance with Section 101 in this case is whether the claim is for a process that goes beyond simply manipulating ‘abstract ideas’ or ‘natural phenomena’ ... As the Supreme Court has made clear, ‘[a]n idea of itself is not patentable, ... taking several abstract ideas and manipulating them together adds nothing to the basic equation’. *In re Warmerdam* 31 USPQ2d at 1759 (emphasis added).

Since the Federal Circuit held in *Warmerdam* that this is the “dispositive issue” when it judged the usefulness, concreteness, and tangibility of the claim limitations in that case, Examiner in the present case views this holding as the dispositive issue for determining whether a claim is “useful, concrete, and tangible” in similar cases. Accordingly, the Examiner finds that Applicant manipulated a set of abstract “computer readable datasets” to solve purely algorithmic problems in the abstract.

Note that a "computer readable dataset" need not be on a "computer readable medium"...it is disembodied "computer readable data". It is the embodiment of computer program steps on a "computer readable medium" that signals the office that applicant is seeking to patent a product of manufacture. On that basis, applicant would get "two bites at the apple" to get a finding that the claim is statutory: First, as a product of manufacture and second, based on the underlying method embodied on the medium.

Applicant failed to claim a "computer readable medium." Although he came deceptively close to it, he failed nonetheless.

Applicant failed to show the transformation of "discrete dollar values," so his case is not directly analogous to the holding of State Street quoted above.

Applicant failed to limit his claims to any practical application in the real world.

Applicant actually admits in the claims that the invention is comprised of disembodied "algorithms" and "software".

Examiner cannot find any basis upon which to find the claims statutory. The claims are absolutely devoid of limitations to practical applications in the technological arts. The claims are not at all "useful, concrete, and tangible" as required by the

Art Unit: 2129

Alappat-Warmerdam-State Street-AT&T line of cases. On these bases, the 101 rejections of the claims STAND.

Argument 4

Applicant further argues that:

Moreover, the Court of Appeals for the Federal Circuit stated in *Eolas Techs., Inc. v Microsoft Corp.*, 399 F.3d 1325 (Fed. Cir. 2005): Title 35, section 101, explains that an invention includes "any new and useful process, machine, manufacture or composition of matter." ... Without question, software code alone qualifies as an invention eligible for patenting under these categories, at least as processes. *Id.* at 1338 (emphasis added).

Applicant makes a purely conclusory statement that pure "software code" may be construed somehow to be a "process" in the constitutional, patent sense.

The following is the actual law outlining the Supreme Court's definition of a "process" that is properly eligible for patent (conveniently found also in the MPEP 2106):

"A [statutory] process is a mode of treatment of certain materials to produce a given result. It is an act, or a series of acts, performed upon the subject-matter to be transformed and reduced to a different state or thing.... The process requires that certain things should be done with certain substances, and in a certain order; but the tools to be used in doing this may be of secondary consequence." See, *Diamond v. Diehr*, 450 U.S. at 183-84, 209 USPQ at 6 (quoting *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1877))

In short, a process requires that certain things to be done with certain substances in a certain order. This is why examiner focuses on the transformation of "discrete dollar

Art Unit: 2129

values" in the State Street case. The Federal Circuit's reliance on the transformation of "discrete dollar values" is actually a statement that a "discrete dollar value" is deemed a "substance" that satisfies the *Cochrane v. Deener* standard (in areas such as this one, State Street was a subtle, but brilliant decision.)

Pure "software code" provides no such transformation of "substance" at all. In fact, if one looks to the Microsoft Press Computer Dictionary, Third Edition for the definition of an "algorithm," one finds it defined on page 20, column 1 of that text thusly:

Algorithm -- "A finite sequence of steps for solving a logical or mathematical problem."

Truly, applicant's "software code" falls squarely into the definition of a pure "algorithm," as defined by Microsoft, Inc...and not the definition of a patentable "process" that requires the transformation of a substance, as defined by the Supreme Court of the United States.

In fact, according to Applicant's argument, the Federal Circuit in State Street could have simply based its decision on the idea that the invention was "software". The Federal Circuit did not do that...they were much more specific and analyzed the transformation of "discrete dollar values." It would have been much easier to say that "software" was per se statutory, however, the Federal Circuit declined to make so simplistic and erroneous an argument.

For these reasons, the 101 rejections of the claims STAND.

Argument 5

Applicant further argues that:

The subject claims clearly pertain to software code comprising a first training algorithm that efficiently builds a rough model from a subset of the computer readable data set; an evaluation component that determines whether the subset of the computer readable data set is an appropriate subset to build a model for the computer readable data set; and a second training algorithm that builds a refined model for the computer readable data set from the subset if deemed appropriate by the evaluation component. The fact that (i) the subject claims elicit a useful, concrete and tangible result, and (ii) the result so elicited is the produced via execution of software code, leads one to conclude that the Examiner's rejection under 35 U.S.C. §101 is clearly erroneous.

The above argument is a purely conclusory statement that the claim is statutory and that examiner's rejection is erroneous.

Applicant's argument is also mooted by the answer to the previous argument above.

Argument 6

Applicant further argues that:

Claims 1-64 stand rejected under 35 U.S.C. §112, first paragraph, because it is alleged that current case law and the MPEP require such rejection for claims that stand rejected under 35 U.S.C. §101. It is believed that this rejection is improper and should be reversed for at

Art Unit: 2129

least the following reasons. The rejection of claims 1-64 under 35 U.S.C. § 101 should be reversed pursuant to the aforementioned comments rendering the subject rejection moot. Accordingly, reversal of this rejection is requested.

Since the 101 rejections stand, the 112, first paragraph rejections also stand. This is significant because, until the 112, first paragraph issues are settled, there is really no constructive reduction to practice of the invention. If the case had been allowed with that issue uncured, the patent would have been open to collateral attack on that point in court...that there never was a constructive reduction to practice of the invention.

Argument 7

Applicant further argues that:

In particular, independent claim 1 (and similarly independent claims 19, 30, 42, and 64) recites an evaluation component that determines whether the subset of the computer readable data set is an appropriate subset to build a model for the computer readable data set and a second training algorithm that builds a refined model for the computer readable data set from the subset if deemed appropriate. Guha et al. fails to disclose or suggest such claimed aspects.

More particularly, Guha et al. does not disclose or suggest employing a subset of the computer readable data set as recited in the subject claims. The Final Office Action asserts that "the 'network blueprints' shown in Fig. 2 are the design parameters (or the 'subsets' of 'computer readable data'...) being used to build the candidate models in the genetically evolving population. (See Final Office Action dated May 18, 2005, page 11). Appellants' representative avers to the contrary. The blueprints as disclose in Guha et al. are bit stream designs for different neural networks. (See col. 2, lines 63-66). The blueprints can specify genetic algorithm parameters that determine how the genetic operators are used to construct network structures and an evaluation function that determines the fitness of a network for a specific application. (See col. 3,

Art Unit: 2129

lines 55-61). However, Guha et al. is silent regarding the blueprint being a subset from a data set which is to be modeled. The appellants' claims instead relate to employing a subset from a data set to build a model that represents the data set; hence, a portion of or an entire data set is employed in connection with the modeling the data set. Thus, Guha et al fails to anticipate or suggest such claimed aspects.

Applicant charges that: "...Guha et al. is silent regarding the blueprint being a subset from a data set which is to be modeled." This begs the question: "Just how big can the so-called 'subset' really be anyway?" An answer to this was provided when Applicant admitted in his argument that the claimed "subset" can include the entire set. That admission is made where Applicant asserts in his argument above that: "...hence, a portion of or an entire data set is employed in connection with the modeling the data set." Since Applicant asserts this, Examiner takes Applicant at his word on the proper scope of his word "subset" and has provided prior art conforming with that scope. Guha et al is, therefore, well within the broadest reasonable interpretation of Applicant's claims...especially since Applicant provided the interpretation that coincides with Examiner's view.

Argument 8

Applicant further argues that:

Furthermore, Guha et al. does not anticipate or suggest an evaluation component that determines whether the subset of the computer readable data set is an appropriate subset to build a model for the computer readable data set as claimed., The Final Office Action contends that "the box that performs network performance evaluation in Fig. 2" discloses such aspects since "the genetic algorithm uses this process to determine

Art Unit: 2129

whether the specific network blueprints . . . are appropriate subsets to build a model for the computer readable data set." (See Final Office Action dated May 18, 2005, page 12).

Appellants' representative respectfully disagrees with such contentions. Guha et al. discloses that the fitness of a network can be determined by the evaluation function. (See col. 3, lines 59-61). However, Guha et al. does not evaluate whether a subset from a data set which was utilized to build a model is an appropriate subset since the blueprints are not subsets of the data sets as noted previously. Thus, Guha et al fails to teach or suggest appellants' invention as claimed.

First, applicant does not specify exactly which claims he believes to be improperly rejected. Applicant simply makes a general denial of the rejections.

Now, applicant's argument depends on the fine distinction made by Applicant regarding what constitutes a "subset." Applicant argues that the prior art does not anticipate the claimed invention because it does not evaluate a "subset." Well, as shown in the response to applicant's previous argument above, applicant defines the term "subset" to include "an entire data set." On that basis, examiner finds that the prior art is well within the broadest reasonable interpretation of applicant's claims...again, Applicant provided the interpretation that coincides with Examiner's view.

The claim rejections STAND.

Argument 9

Applicant further argues that:

Art Unit: 2129

Moreover, Guha et al. does not teach or suggest a second training algorithm that builds a refined model for the computer readable data set from the subset if deemed appropriate as recited in the subject claims. The Final Office Action contends that the "second training algorithm" ... is the algorithm that is used to take the untrained network, at the bottom of Fig. 2, into a trained state, at the bottom-right of Fig. 2." (See Final Office Action dated May 18, 2005, page 13). Appellants' representative disagrees with such contentions. Guha et al. updates blueprints in a cyclical manner as depicted in Fig. 2. Fig. 2 illustrates that an untrained network is trained, and then the trained network is evaluated to determine the blueprint fitness. Thus, Guha et al. fails to anticipate or suggest that a second training algorithm builds a refined model from the subset if deemed appropriate.

First, applicant does not specify exactly which claims he believes to be improperly rejected. Applicant simply makes a general denial of the rejections.

Now, Guha et al. does, in fact, have a second training algorithm that performs the claimed operation. Actually, that training algorithm further operates between each iteration of the first training algorithm because each neural architecture must be evaluated in order to calculate their fitness. In order to evaluate the candidate neural architectures, one must determine how well they can train on the data. It is that algorithm that trains the neural architectures for evaluation that is the "second algorithm" claimed by applicant.

In the last iteration of the prior art genetic system, a population of candidate neural blueprints has been selected through evolution (or "deemed appropriate", as applicant claims.) In that last iteration, the prior art neural nets are trained (i.e., trained to become the "refined model" that applicant claims) and evaluated for fitness. It is that

Art Unit: 2129

final iteration of training and evaluation that anticipates applicant's claim to a "second algorithm that is used to train the untrained neural network."

Now we see that the neural network training algorithm is a separate algorithm from the genetic one...hence, it is a "second algorithm" and it creates a "refined model" by training the untrained neural system that was selected by evolution (i.e., training the neural network architecture "deemed appropriate." as applicant claims.)

Applicant's claims are expressly anticipated by the prior art of Guha et al. and applicant has failed to shift his burden in proving his claimed invention is in some way novel over the prior art cited by Examiner.

On that basis, Examiner's rejections STAND.

Argument 10

Applicant further argues that:

Further, it is believed that the Examiner has failed to fully satisfy his burden under MPEP §§707.07(i) and 2106, which state that in "every Office action, each pending claim should be mentioned by number, and its treatment or status given", (See MPEP §707.07(i), and even though claims may be perceived to fall within the ambit of 35 U.S.C. §§ 101 and 112, first paragraph in their entirety, that this "should not preclude complete examination of the application for satisfaction of all other conditions of patentability." (See MPEP 2106). It is submitted that in both the Office Action dated December 2, 2004, and the final Office Action dated May 18, 2005, the Examiner, while rejecting the subject claims in

Art Unit: 2129

their entirety under 35 U.S.C. §§ 101 and 112, first paragraph, has nevertheless not satisfied the obligation imposed by the aforementioned sections of the MPEP under 35 U.S.C. §§ 102 and 103.

In view of at least the foregoing, it is apparent that Guha et al. does not disclose or suggest the subject invention as recited in claims 1, 19, 30, 42, and 64. Further, in light of the Examiner's failure to specifically address and give indication of the status of claims 2-18, 20-29, 31-41, and 43, which respectively depend from independent claims 1, 19, 30, and 42, as well as claims 44-63, it is therefore believed that these claims are in condition for allowance. Accordingly, this rejection should be reversed.

Hmmm...For the sake of a clearer understanding of this law, Examiner will provide and use a full quote from the MPEP, rather than use the paraphrases provided:

"707.07(i) [R-3] Each Claim To Be Mentioned in Each Office Action In every Office action, each pending claim should be mentioned by number, and its treatment or status given. Since a claim retains its original numeral throughout the prosecution of the application, its history through successive actions is thus easily traceable. Each action should include a summary of the status of all claims presented for examination. Form PTO-326 "Office Action Summary" should be used."

Please note that this section of the MPEP actually requires "a summary of the status of all claims presented for examination." In order to do this, that section requires the Examiner to provide a Form PTO-326 "Office Action Summary" in order to state the status of all the claims. Examiner provided this statement in each of his actions, however, if Applicant is requesting courtesy copies of the forms that were sent, Examiner would be more than happy to cooperate with this request.

On a side point about this issue, Examiner notes that applicant has properly stated the "Status of the Claims" in his brief without asking the Examiner for further

Art Unit: 2129

information regarding the status of the claims...this information seems to have been sufficiently clear from the prior communications with Examiner for Applicant to properly complete his brief without the need of further assistance from the Examiner.

It is also possible that applicant's contention regarding MPEP §§707.07(i) and 2106 is actually a statement that rejections of the claims need to be made in order to evidence that they were actually examined. Essentially, this is a request for further 102 and 103 non-final rejections to be added to the action before it goes to the Board of Appeals. If that is the case, Examiner would again cooperate with applicant by searching for even more prior art so as to add the 102 and 103 rejections requested by applicant (Please note that if prior art is found to further reject the individual claims cited by applicant, that same art could add multiple layers of rejection to other claims already rejected, since the invention disclosures would not be patentably distinct and new 102 art would also have to reject not only the independent claims, but also the intervening dependent claims upon which the claims cited by applicant depend.)

The limits of many searches are often constrained by time issues (commonly known in law as "judicial efficiency" or "administrative efficiency" issues), however, if the quantity of rejections are not to applicant's satisfaction, examiner is more than willing to make the time to cooperate with applicant's request to add further layers of rejection.

The burden argued by Applicant in his brief has the two possible interpretations recited above. Accordingly, to solve the ambiguity, Applicant may simply file a reply brief and

clarify which of the two possible burdens applicant actually believes Examiner should endeavor to meet. Either:

- 1) the provision of courtesy copies of the Forms PTO-326 or
- 2) the provision of further layers of non-final rejections to the claims so applicant has opportunity to respond to those added rejections before all the issues are later taken up by the Board of Appeals...Examiner does not mind re-opening prosecution of the case if that is actually applicant's intent.

Note that a Reply Brief cannot itself be technically regarded as a proper "Request for Continued Examination" (RCE), however, Examiner may reopen prosecution on his own (sua sponte) to apply rejections in order to evidence that the claims were examined, if that is Applicant's wish.

On a side point about this issue, nowhere in MPEP 707.07(i) does it say that rejections are to serve as evidence of the examination of claims. Examiner believes such a characterization to be erroneous. However, if applicant desires further rejections to be made in order to further evidence their examination, examiner is more than happy to comply.

Art Unit: 2129

Further, the claims cited by applicant were, in fact, examined...that is why they all have proper and appropriate rejections raised against them.

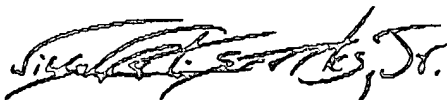
Note that regardless of the status of this issue, this issue itself does not affect the patentability issues raised by Examiner. That is, MPEP 707.07(i) is not an element of sections 101 or 102. Applicant's failure to comply with these sections of the law, and Examiner's consequent rejections of his claims, do not rely upon MPEP 707.07(i) in order to determine the prima facie rejections.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,



27 NOV 2005

Wilbert L. Starks, Jr.

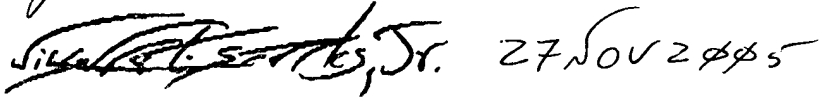
Conferees

David Vincent  SPE 2129 11/27/05

Joseph Hirl

A handwritten signature in black ink, appearing to read 'J. Hirl', written over a horizontal line.

Wilbert L. Starks, Jr.

A handwritten signature in black ink, appearing to read 'Wilbert L. Starks, Jr.', followed by the date '27 Nov 2005', written over a horizontal line.